

ABSTRACT OF THE DISCLOSURE

A method of manufacturing a semiconductor device comprises preparing a substrate to be treated, and forming an insulation film above the substrate, which includes applying an insulation film raw material above the substrate, the insulation film raw material including a substance or a precursor of the substance, the insulation film comprising the substance, curing the insulation film raw material by irradiating an electron beam on the substrate while heating the substrate in a reactor chamber, changing at least one of parameter selected from the group consisting of pressure in the reactor chamber, temperature of the substrate, type of gas having the substrate exposed thereto, flow rate of gas introduced into the reactor chamber, position of the substrate, and quantity of electrons incident to the substrate per unit time when the electron beam is being irradiated on the substrate.